STS Consultants, Ltd.
Solutions through Science & Engineering

February 25, 2002

Ms. Verneta Simon
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Boulevard, Mailcode SE-5J
Chicago, Illinois 60604

RE: Data Comparison of Quanterra and RSSI Soil Samples, Lindsay Light II Site, 316 East Illinois, Chicago, Illinois – STS Project No. 1-24418-RR, Correspondence No. 105

Dear Ms. Simon:

In response to a request from you and Mr. Larry Jensen, attached please find a table comparing data from several analyses for the above-referenced site. STS Consultants, Ltd. (STS) had initially provided all data from the two offsite laboratories, Quanterra and RSSI. That data was submitted June 16, 2000. In correspondence from Mr. Jensen dated June 19, 2000, he asked for certain items to be clarified. The attached table, submitted July 31, 2000, was sent in response. However, certain questions appear to remain and we have prepared this letter in response.

What does the Sample ID Location E21.2-22.5 mean? Does this represent a composite from two different locations? Or is this a typographical error? If so, is there additional data that was omitted from this list?

Response: The initial sample reference was for a location extending from E21.2 to E22.5. In that there was no comparison data to be included and since this sample was analyzed at only the Quanterra facility, this data was not included in the subsequent comparison table submitted July 31, 2000.

Why do some data have no collection date?

Response: It appears that all samples which were listed with no collection date were samples for which there were only Quanterra analyses. These samples were not included in the subsequent comparison table. The lack of reported collection dates was not investigated further.

Why are there so many blanks in the data when these results were to be intercomparisons?

Response: The initial submittal included all analysis from either of the two subcontract laboratories, regardless of whether there was data from the other laboratory for comparison. The subsequent submittal included only samples for which there were results from more than one analysis. Results were included from Quanterra, RSSI Morton Grove, and the field laboratory using Nutranl. Blanks in the second submittal represent samples analyzed by only two of the three methods.

Why are there several specific 0's (zeros) in the Quanterra data? Since there is always some radium in every soil sample, 0's would seemingly be erroneous.

Response: Quanterra did not indicate a less than (<) minimum detectable activity (MDA), as was done by RSSI. The zero values reflect a radium level sufficiently low by the method and count time used for the mass of the sample so as to be below the MDA. In that the MDA was well below the action level, extending the count time to provide a measurement was judged not necessary.

Why are some Quanterra soil results so low? Generally total radium should be on the order of 2 pCi/g. Several samples are much below this. Specifically, these sample results are below 1 pCi/g:

A.2-17
B-18
B-21 South
C.4-20
D.2-14
D.7-11.5
D-21.5 (both first and second listing)
E-14.5
E-15.5
E21.2-E22.5

Response: The results appear to represent samples collected from locations with low radium. Where comparison with RSSI data is available, the results are in reasonable agreement.

Why are almost all RSSI results reported as < (less than) rather than a firm number?

Response: The objective of the analysis was to determine if the samples were below the specified clean-up criteria of 7.1 pCi/g total radium. When sufficient count time had elapsed to determine the MDA was well below 7.1 pCi/g total radium, the need to extend count times to make a precise determination was judged not necessary. Comparison with the Quanterra results shows good agreement.

Why do some samples appear to be listed several times, judging by the Sample ID Location? Are these different samples or recounts of the same sample? If these are recounts, why do the results not agree in many cases?

Specifically, the repeated locations are

A.5-9.5
B-18
B-21 North
C-22
D.7-11.5
D.7-12.5
D-21.5
E-14.5
E-15.5

Response: Samples from the same location which show a range of activities (i.e., A.5-9.5) have one or more results above the clean-up criteria. Subsequent samples represent the resampling of that location after the removal of additional impacted soil (samples dated October 4, 1999 are higher activity than the sample dated October 5, 1999 from location A.5-9.5). Other samples which more closely agree represent locations of sufficient area so as to require multiple samples to characterize (i.e., D.7-11.5; D.7-12.5; E-14.5).

Why do some data show exceedence of the 7.1 pCi/g cleanup criterion? Specifically there are exceedences shown at Sample ID Locations:

A.5-9.5 (RSSI)
E-15.5 Wall (Quanterra)
E-21.5 Center East (Quanterra)

E-21.5 NE Corner Wall (Quanterra)
E-21.5 Wall (Quanterra)

If there are actual exceedences, what action was taken as a result?

Response: Samples represent locations which are within exclusion zones. Analyses were conducted to confirm whether the field readings were identifying soil above the clean-up threshold. Where necessary based on both field and laboratory measurements, additional soil was removed.

The confirmation of clean closure was based on analysis not included in this table.

We hope these responses answer your concerns with the data. We have attached both the initially submitted June 16, 2000 and subsequent July 31, 2000 comparison tables for your files.

Please contact us with any question you may have.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.
Principal Geologist